

Chemical Analysis Report

NE-DIST-2021-08-27-02

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Nassau Lakes and makeup**
Request ID: **RQ-2021-08-23-05**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 22-SEP-2021 14:45



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: PALESTINE LAKE CENTER

Collection Date/Time: 08/26/2021 09:30

Field ID: 19010044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2272373	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P403097	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P403342	
		Sulfate	2.2		mg SO4/L	P403343	
	SM 2120 B-2011	Color (true)	260		PCU	P403099	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P403167	
	SM 2540 C-2011	TDS	68		mg/L	P403402	
	SM 2540 D-2011	TSS	4	I	mg/L	P403395	
2272374	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P403169	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P403210	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P403315	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P403189	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P403170	
2272375	SM 5310 B-2011	Organic Carbon	20		mg C/L	P403345	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P403090	
2272381	EPA 8321B	2,4-D	0.0023	I	ug/L	P403027	
		Acesulfame K	0.10	U	ug/L	P402974	
		2,4,5-T	0.0040	U	ug/L	P403027	
		AMPA	0.10	U	ug/L	P402974	
		Acetaminophen	0.036		ug/L	P403027	
		Acetamiprid	0.0020	U	ug/L	P403027	
		Endothall	0.25	U	ug/L	P402974	
		Glufosinate	0.10	U	ug/L	P402974	
		Glyphosate	0.10	U	ug/L	P402974	
		Afidopyrophen	0.0020	U	ug/L	P403027	
		Bentazon	8.0E-04	U	ug/L	P403027	
		Sucralose	0.010	U	ug/L	P402974	
		Benzovindiflupyr	0.0020	U	ug/L	P403027	
		Carbamazepine	8.0E-04	U	ug/L	P403027	
		Clothianidin	0.0020	U	ug/L	P403027	
		Dinotefuran	0.0020	U	ug/L	P403027	
		Diuron	0.0020	U	ug/L	P403027	
		Fenuron	0.016	U	ug/L	P403027	
		Fluridone	8.0E-04	U	ug/L	P403027	
		Imazapyr	0.028		ug/L	P403027	
		Hydrocodone	0.0020	U	ug/L	P403027	
		Ibuprofen	0.020	U	ug/L	P403027	
		Imidacloprid	0.0020	U	ug/L	P403027	
		Linuron	0.0040	U	ug/L	P403027	
		Mandestrobin	0.0020	U	ug/L	P403027	
		MCPD	0.0020	U	ug/L	P403027	
		Naproxen	0.0080	U	ug/L	P403027	
		Primidone	0.0040	U	ug/L	P403027	MS, RPD
		Pyraclostrobin	0.0020	U	ug/L	P403027	

Field ID: 19010044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2272381	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P403027	
		Tolfenpyrad	0.0020	U	ug/L	P403027	
		Triclopyr	0.0040	U	ug/L	P403027	
2272382	EPA 200.7 Rev. 4.4	Barium	9.7		ug/L	P403121	
		Calcium	1.56		mg/L	P403121	
		Iron	860		ug/L	P403121	
		Magnesium	1.05		mg/L	P403121	
		Manganese	27.3		ug/L	P403121	
		Potassium	0.37	I	mg/L	P403121	
		Sodium	3.9		mg/L	P403121	
		Zinc	5.0	U	ug/L	P403121	
	EPA 200.8 Rev. 5.4	Aluminum	339		ug/L	P403121	
		Antimony	0.072	I	ug/L	P403121	
		Arsenic	0.45		ug/L	P403121	
		Beryllium	0.017	I	ug/L	P403121	
		Boron**	19.2		ug/L	P403121	
		Cadmium	0.020	U	ug/L	P403121	
		Chromium	0.40	U	ug/L	P403121	
		Copper	0.40	U	ug/L	P403121	
		Lead	0.82		ug/L	P403121	
		Nickel	0.50	U	ug/L	P403121	
		Selenium	0.20	U	ug/L	P403121	
		Silver	0.010	U	ug/L	P403121	
		Thallium	0.10	U	ug/L	P403121	
	SM 2340B	Hardness	8.2		mg/L	P403121	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 09/02/2021.

Sample Location: OCEAN POND CENTER

Collection Date/Time: 08/26/2021 10:15

Field ID: 21010011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2272376	EPA 180.1 Rev. 2.0	Turbidity	4.1	A	NTU	P403098	
	EPA 300.0 Rev. 2.1	Chloride	5.1		mg Cl/L	P403342	
		Sulfate	0.97		mg SO4/L	P403343	
		Color (true)	340		PCU	P403099	
	SM 2120 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P403167	
	SM 2540 C-2011	TDS	45		mg/L	P403402	
	SM 2540 D-2011	TSS	4	I	mg/L	P403395	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P403169	
2272377	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P403210	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P403315	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P403189	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P403170	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P403345	
2272378	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P403090	
2272383	EPA 200.7 Rev. 4.4	Barium	7.5		ug/L	P403121	
		Calcium	1.51		mg/L	P403121	
		Iron	1.57E+03		ug/L	P403121	
		Magnesium	0.63		mg/L	P403121	
		Manganese	20.8		ug/L	P403121	
		Potassium	0.30	U	mg/L	P403121	
		Sodium	3.4		mg/L	P403121	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P403121	
		Aluminum	452		ug/L	P403121	
		Antimony	0.059	I	ug/L	P403121	
		Arsenic	1.24		ug/L	P403121	
		Beryllium	0.034	I	ug/L	P403121	
		Boron**	14.8		ug/L	P403121	
		Cadmium	0.020	U	ug/L	P403121	
		Chromium	0.47	I	ug/L	P403121	
		Copper	0.57	I	ug/L	P403121	
		Lead	0.97		ug/L	P403121	
		Nickel	0.57	I	ug/L	P403121	
		Selenium	0.20	U	ug/L	P403121	
		Silver	0.010	U	ug/L	P403121	
		Thallium	0.10	U	ug/L	P403121	
		Hardness	6.4		mg/L	P403121	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 09/02/2021.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403097

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403098

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403121

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403121

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403342

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403343

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403210

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403315

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403189

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403170

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403090

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P402974

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P403027

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P403027

Component	Result	Code	Units
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B-2011
Batch ID: P403099

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P403167

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P403402

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P403395

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P403169

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P403345

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	93.1		P	85 - 115
Calcium	100		P	85 - 115
Iron	96.0		P	85 - 115
Magnesium	97.5		P	85 - 115
Manganese	92.9		P	85 - 115
Potassium	93.9		P	85 - 115
Sodium	95.3		P	85 - 115
Zinc	92.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403121

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	105		P	85 - 115
Arsenic	103		P	85 - 115
Beryllium	102		P	85 - 115
Boron	96.5		P	85 - 115
Cadmium	98.2		P	85 - 115
Chromium	102		P	85 - 115
Copper	103		P	85 - 115
Lead	104		P	85 - 115
Nickel	104		P	85 - 115
Selenium	102		P	85 - 115
Silver	108		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403342

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403210

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	105		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403170

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	107		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P402974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	78.6		P	40 - 150
AMPA	82.4		P	40 - 150
Endothall	68.1		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	107		P	40 - 150
Sucralose	90.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P403027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	92.8		P	40 - 150
2,4,5-T	106		P	40 - 150
Acetaminophen	80.2		P	30 - 150
Acetamiprid	96.1		P	40 - 150
Afidopyropen	83.2		P	40 - 150
Bentazon	119		P	30 - 150
Benzovindiflupyr	94.7		P	40 - 150
Carbamazepine	85.8		P	40 - 150
Clothianidin	98.4		P	40 - 150
Dinotefuran	84.8		P	40 - 150
Diuron	79.0		P	40 - 150
Fenuron	94.5		P	40 - 150
Fluridone	100		P	40 - 150
Hydrocodone	77.7		P	40 - 150
Ibuprofen	54.6		P	40 - 150
Imazapyr	85.0		P	40 - 150
Imidacloprid	97.3		P	40 - 150
Linuron	83.9		P	40 - 150
Mandestrobin	95.1		P	40 - 150
MCPP	91.7		P	40 - 150
Naproxen	98.6		P	40 - 150
Primidone	84.9		P	40 - 150
Pyraclostrobin	87.5		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P403027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Thiamethoxam	92.7		P	40 - 150
Tolfenpyrad	51.5		P	30 - 150
Triclopyr	97.3		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P403099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P403167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P403169

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P403345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P403121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272208	Barium	99.1	103	P/P	80 - 120
2272208	Calcium	103		P	80 - 120
2272208	Iron	106	108	P/P	80 - 120
2272208	Magnesium	107	110	P/P	80 - 120
2272208	Manganese	98.9	103	P/P	80 - 120
2272208	Potassium	102	105	P/P	80 - 120
2272208	Sodium	103	109	P/P	80 - 120
2272208	Zinc	99.6	103	P/P	80 - 120
2272344	Barium	88.2		P	80 - 120
2272344	Calcium	97.6		P	80 - 120
2272344	Iron	91.5		P	80 - 120
2272344	Magnesium	99.2		P	80 - 120
2272344	Manganese	88.1		P	80 - 120
2272344	Potassium	81.8		P	80 - 120
2272344	Sodium	98.8		P	80 - 120
2272344	Zinc	90.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P403121

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272208	Aluminum	98.6	103	P/P	80 - 120
2272208	Antimony	105	105	P/P	80 - 120
2272208	Arsenic	100	101	P/P	80 - 120
2272208	Beryllium	99.9	98.0	P/P	80 - 120
2272208	Boron	98.0	104	P/P	80 - 120
2272208	Cadmium	100	101	P/P	80 - 120
2272208	Chromium	103	102	P/P	80 - 120
2272208	Copper	101	98.8	P/P	80 - 120
2272208	Lead	106	106	P/P	80 - 120
2272208	Nickel	102	101	P/P	80 - 120
2272208	Selenium	98.6	99.9	P/P	80 - 120
2272208	Silver	107	107	P/P	80 - 120
2272208	Thallium	107	107	P/P	80 - 120
2272344	Aluminum	100		P	80 - 120
2272344	Antimony	106		P	80 - 120
2272344	Arsenic	101		P	80 - 120
2272344	Beryllium	96.0		P	80 - 120
2272344	Boron	98.8		P	80 - 120
2272344	Cadmium	99.4		P	80 - 120
2272344	Chromium	103		P	80 - 120
2272344	Copper	97.7		P	80 - 120
2272344	Lead	105		P	80 - 120
2272344	Nickel	101		P	80 - 120
2272344	Selenium	99.4		P	80 - 120
2272344	Silver	105		P	80 - 120
2272344	Thallium	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P403342

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403342

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272141	Chloride	96.4		P	90 - 110
2272229	Chloride	97.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272141	Sulfate	96.7		P	90 - 110
2272229	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272419	Ammonia-N	95.0	94.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272394	Kjeldahl Nitrogen	110	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272335	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272387	Total-P	107	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272388	O-Phosphate-P	93.9	95.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P402974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271284	Acesulfame K	56.7	57.9	P/P	40 - 150
2271284	AMPA	91.0	91.7	P/P	40 - 150
2271284	Endothall	101	103	P/P	40 - 150
2271284	Glufosinate	107	106	P/P	40 - 150
2271284	Glyphosate	108	110	P/P	40 - 150
2271284	Sucralose	93.6	94.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P403027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2271466	2,4-D	105	96.8	P/P	40 - 150
2271466	2,4,5-T	111	101	P/P	40 - 150
2271466	Acetaminophen	81.5	84.3	P/P	30 - 150
2271466	Acetamiprid	91.7	84.6	P/P	40 - 150
2271466	Afidopyropen	111	99.8	P/P	40 - 150
2271466	Benzovindiflupyr	92.0	95.7	P/P	40 - 150
2271466	Carbamazepine	88.7	92.1	P/P	40 - 150
2271466	Clothianidin	68.7	70.6	P/P	40 - 150
2271466	Diuron	89.8	87.8	P/P	40 - 150
2271466	Fenuron	99.3	95.6	P/P	40 - 150
2271466	Fluridone	94.8	100	P/P	40 - 150
2271466	Hydrocodone	98.2	87.5	P/P	40 - 150
2271466	Ibuprofen	70.5	65.9	P/P	40 - 150
2271466	Imidacloprid	92.3	91.1	P/P	40 - 150
2271466	Linuron	99.3	77.0	P/P	40 - 150
2271466	Mandestrobin	104	101	P/P	40 - 150
2271466	MCP	118	110	P/P	40 - 150
2271466	Naproxen	94.3	87.8	P/P	40 - 150
2271466	Primidone	32.3	50.6	F/P	40 - 150
2271466	Pyraclostrobin	91.3	87.3	P/P	40 - 150
2271466	Thiamethoxam	99.5	90.5	P/P	40 - 150
2271466	Tolfenpyrad	52.1	52.1	P/P	30 - 150
2271466	Triclopyr	106	96.9	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P403169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272393	Fluoride	98.4	98.4	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P403345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2272233	Organic Carbon	96.2	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272313	Turbidity	5.92	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P403098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272376	Turbidity	0.242	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P403121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272208	Barium	3.78	Spike	P	0 - 20
2272208	Calcium	3.07	Spike	P	0 - 20
2272208	Iron	2.31	Spike	P	0 - 20
2272208	Magnesium	2.62	Spike	P	0 - 20
2272208	Manganese	3.68	Spike	P	0 - 20
2272208	Potassium	2.75	Spike	P	0 - 20
2272208	Sodium	3.37	Spike	P	0 - 20
2272208	Zinc	2.94	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P403121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272208	Aluminum	3.49	Spike	P	0 - 20
2272208	Antimony	0.549	Spike	P	0 - 20
2272208	Arsenic	0.783	Spike	P	0 - 20
2272208	Beryllium	1.76	Spike	P	0 - 20
2272208	Boron	3.61	Spike	P	0 - 20
2272208	Cadmium	0.464	Spike	P	0 - 20
2272208	Chromium	0.638	Spike	P	0 - 20
2272208	Copper	1.95	Spike	P	0 - 20
2272208	Lead	0.270	Spike	P	0 - 20
2272208	Nickel	1.16	Spike	P	0 - 20
2272208	Selenium	1.32	Spike	P	0 - 20
2272208	Silver	0.431	Spike	P	0 - 20
2272208	Thallium	0.664	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272141	Chloride	0.610	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P403343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272141	Sulfate	1.14	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P403210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272419	Ammonia-N	0.181	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P403315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272394	Kjeldahl Nitrogen	2.04	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P403189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272335	NO2NO3-N	0.621	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P403170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272387	Total-P	0.134	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P403090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272388	O-Phosphate-P	1.90	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P402974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271284	Acesulfame K	2.14	Spike	P	0 - 30
2271284	AMPA	0.789	Spike	P	0 - 30
2271284	Endothall	2.32	Spike	P	0 - 30
2271284	Glufosinate	0.745	Spike	P	0 - 30
2271284	Glyphosate	2.50	Spike	P	0 - 30
2271284	Sucralose	0.483	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P403027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2271466	2,4-D	7.65	Spike	P	0 - 30
2271466	2,4,5-T	9.54	Spike	P	0 - 30
2271466	Acetaminophen	3.38	Spike	P	0 - 30
2271466	Acetamiprid	8.00	Spike	P	0 - 30
2271466	Afidopyropen	10.3	Spike	P	0 - 30
2271466	Bentazon	11.5	Spike	P	0 - 30
2271466	Benzovindiflupyr	3.81	Spike	P	0 - 30
2271466	Carbamazepine	3.45	Spike	P	0 - 30
2271466	Clothianidin	2.74	Spike	P	0 - 30
2271466	Dinotefuran	7.69	Spike	P	0 - 30
2271466	Diuron	2.22	Spike	P	0 - 30
2271466	Fenuron	3.73	Spike	P	0 - 30
2271466	Fluridone	5.58	Spike	P	0 - 30
2271466	Hydrocodone	11.5	Spike	P	0 - 30
2271466	Ibuprofen	6.74	Spike	P	0 - 30
2271466	Imazapyr	11.0	Spike	P	0 - 30
2271466	Imidacloprid	1.18	Spike	P	0 - 30
2271466	Linuron	25.3	Spike	P	0 - 30
2271466	Mandestrobin	3.39	Spike	P	0 - 30
2271466	MCP	6.59	Spike	P	0 - 30
2271466	Naproxen	7.15	Spike	P	0 - 30
2271466	Primidone	44.0	Spike	F	0 - 30
2271466	Pyraclostrobin	4.52	Spike	P	0 - 30
2271466	Thiamethoxam	9.47	Spike	P	0 - 30
2271466	Tolfenpyrad	0.0501	Spike	P	0 - 30
2271466	Triclopyr	8.83	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
 Batch ID: P403099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272313	Color (true)	0.296	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P403167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272393	Total Alkalinity	0.0994	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
 Batch ID: P403402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272232	TDS	5.88	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P403169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272393	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P403345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2272233	Organic Carbon	1.58	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2272381

Field Sample ID: 19010044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	48.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.4	P	30 - 160
EPA 8321B	Diuron-d6	87.6	P	30 - 160
EPA 8321B	Endothall-d6	82.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	43.0	P	30 - 160
EPA 8321B	Primidone-d5	32.0	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107515

Included Lab Sample IDs: 2272375, 2272378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107517

Included Lab Sample IDs: 2272373, 2272376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	100	100	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A107518

Included Lab Sample IDs: 2272373, 2272376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A107519

Included Lab Sample IDs: 2272381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	78.1		P	60 - 160
Glufosinate	99.7		P	60 - 160
Glyphosate	101		P	60 - 160

Reference Method: EPA 8321B

Run ID: A107530

Included Lab Sample IDs: 2272381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	65.2	101	P/P	60 - 160
Endothall	73.4	86.1	P/P	60 - 160
Sucralose	90.6	90.9	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A107559

Included Lab Sample IDs: 2272373, 2272376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A107559

Included Lab Sample IDs: 2272373, 2272376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107563

Included Lab Sample IDs: 2272374, 2272377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107569

Included Lab Sample IDs: 2272374, 2272377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107599

Included Lab Sample IDs: 2272374, 2272377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107604

Included Lab Sample IDs: 2272382, 2272383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	95.0	93.1	P/P	90 - 110
Calcium	96.1	96.1	P/P	90 - 110
Iron	95.6	95.7	P/P	90 - 110
Magnesium	95.9	96.1	P/P	90 - 110
Manganese	100	97.2	P/P	90 - 110
Potassium	95.7	97.0	P/P	90 - 110
Sodium	96.1	97.0	P/P	90 - 110
Zinc	98.2	95.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107605

Included Lab Sample IDs: 2272382, 2272383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	99.7	P/P	90 - 110
Aluminum	98.1	101	P/P	90 - 110
Antimony	103	105	P/P	90 - 110
Antimony	105	102	P/P	90 - 110
Arsenic	98.6	99.8	P/P	90 - 110
Arsenic	99.8	98.8	P/P	90 - 110
Beryllium	94.5	94.6	P/P	90 - 110
Beryllium	96.8	94.5	P/P	90 - 110
Boron	97.7	99.4	P/P	90 - 110
Boron	99.4	97.8	P/P	90 - 110
Cadmium	98.2	98.8	P/P	90 - 110
Cadmium	98.8	98.2	P/P	90 - 110
Chromium	102	98.6	P/P	90 - 110
Chromium	98.8	102	P/P	90 - 110
Copper	95.6	98.2	P/P	90 - 110
Copper	98.2	96.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107605

Included Lab Sample IDs: 2272382, 2272383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	100	99.2	P/P	90 - 110
Lead	98.7	100	P/P	90 - 110
Nickel	96.5	99.2	P/P	90 - 110
Nickel	99.2	97.4	P/P	90 - 110
Selenium	97.3	99.4	P/P	90 - 110
Selenium	99.4	97.3	P/P	90 - 110
Silver	101	102	P/P	90 - 110
Silver	102	101	P/P	90 - 110
Thallium	102	103	P/P	90 - 110
Thallium	103	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107634

Included Lab Sample IDs: 2272373, 2272376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107635

Included Lab Sample IDs: 2272374, 2272377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107640

Included Lab Sample IDs: 2272374, 2272377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.0	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A107670

Included Lab Sample IDs: 2272381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	116	70.1	P/P	50 - 150
2,4,5-T	93.3	88.9	P/P	50 - 150
Acetaminophen	110	104	P/P	60 - 160
Acetamiprid	111	109	P/P	50 - 150
Afidopyropen	109	112	P/P	50 - 150
Bentazon	104	105	P/P	50 - 160
Benzovindiflupyr	110	107	P/P	50 - 150
Carbamazepine	116	110	P/P	60 - 150
Clothianidin	118	107	P/P	60 - 150
Dinotefuran	101	103	P/P	50 - 150
Diuron	105	112	P/P	60 - 160
Fenuron	104	101	P/P	60 - 150
Fluridone	110	106	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A107670
Included Lab Sample IDs: 2272381

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	100	96.6	P/P	60 - 150
Ibuprofen	68.9	96.1	P/P	50 - 160
Imazapyr	89.9	105	P/P	50 - 150
Imidacloprid	110	114	P/P	60 - 150
Linuron	99.3	104	P/P	60 - 150
Mandestrobin	105	108	P/P	50 - 150
MCPP	110	99.6	P/P	50 - 150
Naproxen	120	80.2	P/P	50 - 160
Primidone	117	102	P/P	60 - 150
Pyraclostrobin	112	109	P/P	60 - 150
Thiamethoxam	111	114	P/P	50 - 150
Tolfenpyrad	107	105	P/P	60 - 150
Triclopyr	112	94.6	P/P	50 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					5.92	
	Turbidity					0.242	
EPA 200.7 Rev. 4.4	Barium	93.1	103	99.1	88.2		3.78
	Calcium	100	103	97.6			3.07
	Iron	96.0	106	108	91.5		2.31
	Magnesium	97.5	107	110	99.2		2.62
	Manganese	92.9	98.9	103	88.1		3.68
	Potassium	93.9	102	105	81.8		2.75
	Sodium	95.3	103	109	98.8		3.37
	Zinc	92.2	99.6	103	90.3		2.94
EPA 200.8 Rev. 5.4	Aluminum	101	98.6	103	100		3.49
	Antimony	105	105	105	106		0.549
	Arsenic	103	100	101	101		0.783
	Beryllium	102	99.9	98.0	96.0		1.76
	Boron	96.5	98.0	104	98.8		3.61
	Cadmium	98.2	100	101	99.4		0.464
	Chromium	102	103	102	103		0.638
	Copper	103	101	98.8	97.7		1.95
	Lead	104	106	106	105		0.270
	Nickel	104	102	101	101		1.16
	Selenium	102	98.6	99.9	99.4		1.32
	Silver	108	107	107	105		0.431
	Thallium	104	107	107	107		0.664
EPA 300.0 Rev. 2.1	Chloride	100	96.4	97.9		0.610	
	Sulfate	99.9	96.7	100		1.14	
EPA 350.1 Rev. 2.0	Ammonia-N	99.6	95.0	94.8			0.181
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	110	106			2.04
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.0	97.0	98.0			0.621
EPA 365.1 Rev. 2.0	Total-P	107	107	107			0.134
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	93.9	95.7			1.90
EPA 8321B	2,4-D	92.8	105	96.8			7.65
	2,4,5-T	106	111	101			9.54
	Acesulfame K	78.6	56.7	57.9			2.14
	Acetaminophen	80.2	81.5	84.3			3.38
	Acetamiprid	96.1	91.7	84.6			8.00
	Afidopyropen	83.2	111	99.8			10.3
	AMPA	82.4	91.0	91.7			0.789
	Bentazon	119					11.5
	Benzovindiflupyr	94.7	92.0	95.7			3.81
	Carbamazepine	85.8	88.7	92.1			3.45
	Clothianidin	98.4	68.7	70.6			2.74
	Dinotefuran	84.8					7.69
	Diuron	79.0	89.8	87.8			2.22
	Endothall	68.1	101	103			2.32
	Fenuron	94.5	99.3	95.6			3.73
	Fluridone	100	94.8	100			5.58
	Glufosinate	105	107	106			0.745
	Glyphosate	107	108	110			2.50
	Hydrocodone	77.7	98.2	87.5			11.5
	Ibuprofen	54.6	70.5	65.9			6.74
	Imazapyr	85.0					11.0
	Imidacloprid	97.3	92.3	91.1			1.18
	Linuron	83.9	99.3	77.0			25.3
	Mandestrobin	95.1	104	101			3.39

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	MCCP	91.7	118	110		6.59
	Naproxen	98.6	94.3	87.8		7.15
	Primidone	84.9	32.3	50.6		44.0
	Pyraclostrobin	87.5	91.3	87.3		4.52
	Sucralose	90.2	93.6	94.0		0.483
	Thiamethoxam	92.7	99.5	90.5		9.47
	Tolfenpyrad	51.5	52.1	52.1		0.0501
	Triclopyr	97.3	106	96.9		8.83
SM 2120 B-2011	Color (true)	100			0.296	
SM 2320 B-2011	Total Alkalinity	103			0.0994	
SM 2540 C-2011	TDS				5.88	
SM 4500 F-C-2011	Fluoride	99.0	98.4	98.4		0.0
SM 5310 B-2011	Organic Carbon	99.2	96.2	98.8		1.58

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2272373, 2272376
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2272382, 2272383
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2272382, 2272383
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2272373, 2272376
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2272373, 2272376
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2272374, 2272377
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2272374, 2272377
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2272374, 2272377
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2272374, 2272377
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2272375, 2272378
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2272381
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2272373, 2272376
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2272373, 2272376
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2272382, 2272383
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2272373, 2272376
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2272373, 2272376
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2272373, 2272376
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2272374, 2272377

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/27/2021			08/27/2021 15:00	Sarah A Nixon	2272373, 2272376
EPA 200.7 Rev. 4.4	08/27/2021	08/30/2021 13:10	Elliott D. Healy	09/02/2021 04:24	Josef B Mick	2272382
	08/27/2021	08/30/2021 13:10	Elliott D. Healy	09/02/2021 04:30	Josef B Mick	2272383
EPA 200.8 Rev. 5.4	08/27/2021	08/30/2021 13:10	Elliott D. Healy	09/01/2021 16:39	Alexander Thompson	2272382
	08/27/2021	08/30/2021 13:10	Elliott D. Healy	09/01/2021 17:33	Alexander Thompson	2272383
EPA 300.0 Rev. 2.1	08/27/2021			09/02/2021 20:17	Roberta Tatti	2272373
	08/27/2021			09/02/2021 20:29	Roberta Tatti	2272376
EPA 350.1 Rev. 2.0	08/27/2021			08/31/2021 12:24	Ping Hua	2272374
	08/27/2021			08/31/2021 12:25	Ping Hua	2272377
EPA 351.2 Rev. 2.0	08/27/2021	09/02/2021 13:17	Benjamin T. Nordmann	09/03/2021 12:21	Alexandra J Mattheus	2272374
	08/27/2021	09/02/2021 13:17	Benjamin T. Nordmann	09/03/2021 12:23	Alexandra J Mattheus	2272377
EPA 353.2 Rev. 2.0	08/27/2021			08/31/2021 09:34	Beverly Y. Sanders	2272374
	08/27/2021			08/31/2021 09:35	Beverly Y. Sanders	2272377
EPA 365.1 Rev. 2.0	08/27/2021	08/31/2021 14:38	Simonne.V. Calhoun	09/01/2021 14:01	Shengyu Ding	2272374
	08/27/2021	08/31/2021 14:38	Simonne.V. Calhoun	09/01/2021 14:02	Shengyu Ding	2272377
EPA 365.1 Rev. 2.0 dissolved	08/27/2021			08/27/2021 14:50	James L Waggeberby	2272375, 2272378
EPA 8321B	08/27/2021	08/27/2021 11:30	Juyoung Kim	08/27/2021 13:48	Juyoung Kim	2272381
	08/27/2021	08/27/2021 11:30	Juyoung Kim	08/28/2021 02:39	Juyoung Kim	2272381
	08/27/2021	08/27/2021 14:00	Hoor Shaik	08/28/2021 06:59	Juyoung Kim	2272381
SM 2120 B-2011	08/27/2021			08/27/2021 15:54	Sarah A Nixon	2272373
	08/27/2021			08/27/2021 15:55	Sarah A Nixon	2272376
SM 2320 B-2011	08/27/2021			08/30/2021 18:06	Dale L. Simmons	2272373
	08/27/2021			08/30/2021 18:14	Dale L. Simmons	2272376
SM 2340B	08/27/2021			09/02/2021 04:24	Josef B Mick	2272382
	08/27/2021			09/02/2021 04:30	Josef B Mick	2272383
SM 2540 C-2011	08/27/2021			08/30/2021 15:46	Yijie Li	2272373, 2272376
SM 2540 D-2011	08/27/2021			08/30/2021 14:36	Yijie Li	2272373, 2272376
SM 4500 F-C-2011	08/27/2021			08/30/2021 18:06	Dale L. Simmons	2272373
	08/27/2021			08/30/2021 18:14	Dale L. Simmons	2272376
SM 5310 B-2011	08/27/2021			09/02/2021 06:22	Touraj Touran	2272374
	08/27/2021			09/02/2021 06:35	Touraj Touran	2272377